AMENDMENTS TO THE CLAIMS

1.-8. (Canceled)

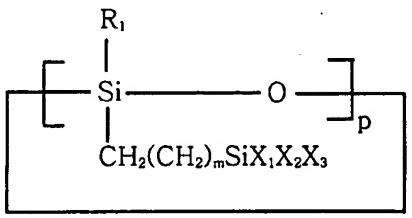
9. (Previously Presented) A method of forming an insulating film between interconnect layers of a semiconductor device comprising the steps of:

providing a liquid coating composition by dissolving a siloxane-based resin in an organic solvent;

coating a silicon wafer with the liquid coating composition to form a coating film thereon; and

heat-curing the coating film,

wherein the siloxane-based resin is prepared by hydrolyzing and polycondensing a first monomer of the formula (1) and a second monomer of the formula (2) in an organic solvent in the presence of an acid or alkaline catalyst and water:



(1)

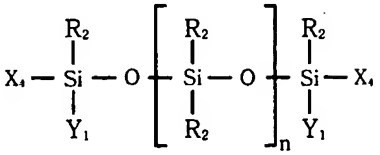
wherein,

R_1 is H, C_{1-3} alkyl or C_{6-15} aryl;

each of X_1, X_2 and X_3, independently, is C_{1-3} alkyl, C_{1-10} alkoxy or halogen, provided that at least one of them is hydrolysable;

m is an integer from 0 to 10; and

p is an integer from 3 to 8; and



(2)

wherein,

R_2 is H, C_{1-3} alkyl or C_{6-15} aryl;

X_4 is C_{1-10} alkoxy;

Y_1 is C_{1-3} alkyl or C_{1-10} alkoxy; and

n is an integer from 0 to 10.

10. (Previously Presented) The method according to claim 9, wherein the siloxane-based resin is mixed with a porogen so that a weight ratio of the resin to the porogen is 99:1-30:70.

11. (Original) The method according to claim 9, wherein the porogen is selected from the group consisting of cyclodextrin, polycaprolactone, and a derivative thereof.

12. (Original) The method according to claim 9, wherein the organic solvent is selected from the group consisting of an aliphatic hydrocarbon solvent, an aromatic hydrocarbon solvent, a ketone-based solvent, an ether-

based solvent, an acetate-based solvent, an alcohol-based solvent, an amide-based solvent, a silicon-based solvent, and mixtures thereof.

13. (Original) The method according to claim 9, wherein the organic solvent is 20-99.9wt% of the liquid coating composition.

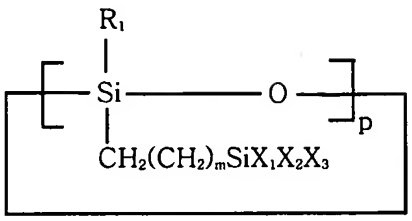
14. (Original) The method according to claim 9, wherein the liquid coating composition is applied to the silicon wafer by spin-coating.

15. (Original) The method according to claim 9, wherein the heat-curing is conducted at a temperature of 150-600°C for 1-150 minutes.

16. (Canceled)

17. (Previously Presented) An interlayer insulating film made from a siloxane-based resin, wherein micropores are formed throughout the film by the use of a porogen,

wherein the siloxane-based resin is prepared by hydrolyzing and polycondensing a first monomer of the formula (1) and a second monomer of the formula (2) in an organic solvent in the presence of an acid or alkaline catalyst and water:



(1)

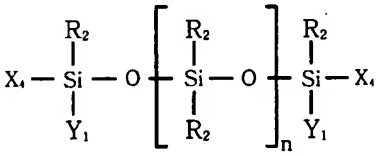
wherein,

R_1 is H, C_{1-3} alkyl or C_{6-15} aryl;

each of X_1, X_2 and X_3, independently, is C_{1-3} alkyl, C_{1-10} alkoxy or halogen, provided that at least one of them is hydrolysable;

m is an integer from 0 to 10; and

p is an integer from 3 to 8; and



(2)

wherein,

R_2 is H, C_{1-3} alkyl or C_{6-15} aryl;

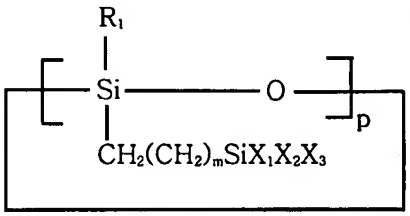
X_4 is C_{1-10} alkoxy;

Y_1 is C_{1-3} alkyl or C_{1-10} alkoxy; and

n is an integer from 0 to 10.

18. (Original) The interlayer insulating film according to claim 17, wherein the porogen is selected from a group consisting of cyclodextrin, polycaprolactone, and derivatives thereof.

19. (Previously Presented) A semiconductor device containing an insulating film made from a siloxane-based resin prepared by hydrolyzing and polycondensing a first monomer of the formula (1) and a second monomer of the formula (2) in an organic solvent in the presence of an acid or alkaline catalyst and water:



(1)

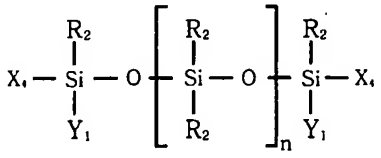
wherein,

R_1 is H, C_{1-3} alkyl or C_{6-15} aryl;

each of X_1, X_2 and X_3, independently, is C_{1-3} alkyl, C_{1-10} alkoxy or halogen, provided that at least one of them is hydrolysable;

m is an integer from 0 to 10; and

p is an integer from 3 to 8; and



(2)

wherein,

R_2 is H, C_{1-3} alkyl or C_{6-15} aryl;

X_4 is C_{1-10} alkoxy;

Y_1 is C_{1-3} alkyl or C_{1-10} alkoxy; and

n is an integer from 0 to 10.